Catalogue of American Amphibians and Reptiles.

McCRANIE, JAMES R. 1981. *Crotalus basiliscus.*

Crotalus basiliscus (Cope)
Mexican west coast rattlesnake

Caudisona basilisca Cope, 1864:166. Type-locality, "Near Colima, Mexico," restricted to "Colima, Colima, Mexico" by Smith and Taylor (1950). Holotype, Smithsonian 6118, now U.S. Nat. Mus. 53586, a skin, collected by John Xantus, date unknown (not examined by author).
Crotalus basiliscus: Yarrow, 1875:532.

• CONTENT. Two subspecies are recognized: *basiliscus* and *oaxacus*.

• DEFINITION. *Crotalus basiliscus* is a large rattlesnake ranging from about 300 mm at birth to a little over 2000 mm. Some large adults have a prominent dorsal ridge and rough and tuberculate scales, particularly posteriorly (see diagnosis of nominate subspecies). The tail is long with a ratio of tail length to overall length at standard adult length of .0913 in males and .0652 in females. Scutellation is as follows: 24 to 29 dorsal scale rows at midbody, all keeled except lowest 1 to 3 rows; 168 to 201 ventrals in males, 173 to 206 in females; 26 to 36 subcaudals in males, 18 to 29 in females; supralabials 13 to 18 (usually 15) with the fifth one enlarged; infralabials 13 to 19 (usually 16); rostral higher than wide, contacting the prenasals; a postrostral usually present on each side; 4 to 9 (usually 4) scales occupying the internasal-prefrontal area; internasals and prefrontals are paired. There are 24 to 41 diamond-shaped body blotches outlined by yellow or yellowish white and closed laterally, becoming obscure posteriorly. Laterally there are 2 or 3 rows of blotches, becoming obscure in large adults. The ground color is variable and can be pale brown, yellowish olive, olive-gray, or greenish olive. There is no transverse bar in the prefrontal area, usually no dark paravertebral stripes on the neck (if present never more than one head length long), and the parietal and occipital regions are generally unicolored. The tail is usually gray, with pale gray crossbars moderately evident posteriorly. The rattle matrix is usually gray or brown. Ontogenetic change in color and pattern occurs in the species (see Klauber, 1952). Hemipenial characters are as follows: lobes long and tapering; numerous spines in the crotch, these spines smaller than those on the outer shoulders; spines on the outer shoulders intergrading with spines in the crotch. There are 9 to 11 dentary, 7 to 8 pterygoid, and 0 to 2 palatine teeth.

• DESCRIPTIONS. Gloyd (1940) and Klauber (1952) provided the best descriptions of the species. Klauber (1972) included a table on variation in scutellation. Scale count data are in Bogert and Oliver (1945), Duellman (1961), Fugler and Dixon (1961), Smith and Lynch (1967), and Hardy and McDiarmid (1969). Brattstrom (1964) described many aspects of the osteology. Baker et al. (1972) described the karyotype.

• ILLUSTRATIONS. Black and white photographs are in Klauber (1936, 1952, 1972), Gloyd (1940, 1948), and Harris and Simmons (1978). Bogert and Oliver (1945) included photographs of specimens showing tendencies towards *C. molossus* (see COMMENT). A color photograph of the nominate subspecies is in Kundert (1974). Klauber (1936, 1972) provided line drawings of the side of the head. Cope (1900) included drawings of the top of the head, the tail, and the hemipenis. Brattstrom (1964) provided drawings of many osteological features. Baker et al. (1972) illustrated the karyotype.

• DISTRIBUTION. *Crotalus basiliscus* is found from extreme southern Sonora, México, southeastward along the Pacific coast to Michoacán. A disjunct population occurs in the state of Oaxaca. The species is known from the following Mexican states: Sonora, Sinaloa, Nayarit, Jalisco, Colima, Michoacán, and Oaxaca. Zweifel (1960) rejected an earlier published record of *Crotalus* (*basiliscus*) from the Tres Marías Islands, Nayarit. Other published state records are erroneous, probably resulting from confusion with *C. molossus nigrescens*. Armstrong and Murphy (1979) thought that the species should also occur along the coastal plain in Guerrero. It should also occupy the dry Río Atengo (Chapalagana) valley of southwestern Zacatecas, near Nayarit and Jalisco (see COMMENT). The subspecies *basiliscus* usually occurs below 1000 m in various dry forest formations, but it has been collected above 1900 m in southeastern Sinaloan pine-oak forest. Armstrong and Murphy (1979) reported a specimen collected at 2225 m in a pine-oak forest in Michoacán. The subspecies *oaxacus* occurs primarily in pine-oak forest in Oaxaca and has been reported from between 1225 and 2450 m. Armstrong and Murphy (1979) discuss various vegetation formations in which the species has been collected. Hardy and McDiarmid (1969) listed and mapped numerous locality records from Sinaloa.

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. Smith and Smith (1976) listed the majority of the literature on the species and Klauber (1972) provided data on numerous aspects of the snake's biology. Other references are: Bowler (1977), longevity in captivity; Fitch (1970), summary of literature on reproduction; Malkin (1958), the species in relation to the culture of Cora Indians; Murphy and Armstrong (1978) and Telford (1964), infections; Smith and Lynch (1967), first literature report of [*oaxacus*] males; Tu (1977), venom; Wiley (1930), dicephalic embryo.

• ETYMOLOGY. The name *basiliscus* is derived from the Greek word *basiliskos*, meaning a petty king or a king's son, probably alluding to the species' large size. The name *oaxacus* refers to Oaxaca, México, the type-locality used by Gloyd (1948).

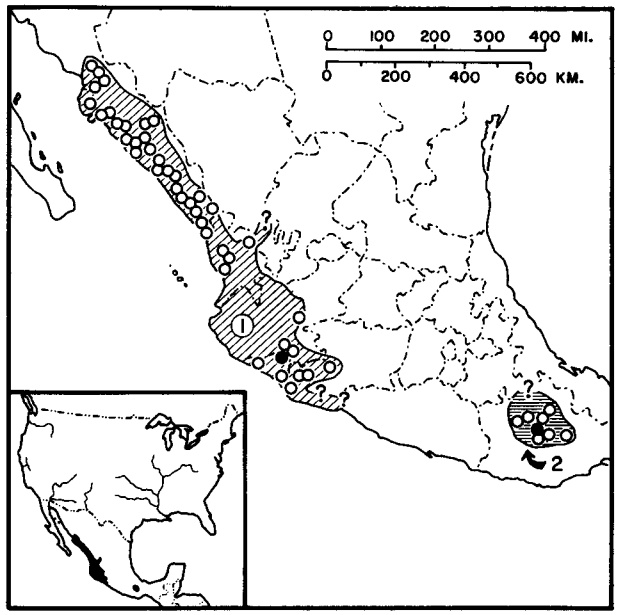
1. *Crotalus basiliscus basiliscus* (Cope)

Caudisona basilisca Cope, 1864:166. See species synonymy.
Crotalus durissus Var. *basiliscus*: Garman, 1883:171.
Crotalus terrificus: Boulenger, 1896:573 (part).
Crotalus terrificus basiliscus: Amaral, 1929:370.
Crotalus basiliscus basiliscus: Gloyd, 1948:1.

• DESCRIPTION. A subspecies with 178 to 201 ventrals in males, 184 to 206 in females; 26 to 36 subcaudals in males, 18 to 29 in females; 24 to 29 (usually 27 or 29) dorsal scale rows at midbody; 26 to 41 body blotches; a prominent dorsal ridge and rough, tuberculate dorsal scales, especially in large adults; and a length up to about 2000 mm.

2. *Crotalus basiliscus oaxacus* Gloyd

Crotalus basiliscus oaxacus Gloyd, 1948:1. Type-locality, "Oaxaca"; Cerro San Felipe, near Oaxaca, Oaxaca, México, ac-



MAP. Solid spots indicate type-localities, open circles other records. Question marks indicate uncertain range boundaries.

cording to Cochran (1961). Holotype, U.S. Nat. Mus. 46467, an adult female, collected by E. W. Nelson and E. A. Goldman, 20 June 1894 (not examined by author).

• DESCRIPTION. A subspecies with 168 to 176 ventrals in males, 173 to 183 in females; 26 to 28 subcaudals in males, 20 to 24 in females; 25 to 28 (usually 25) dorsal scale rows at midbody; 24 to 31 body blotches; pale and dark tail rings usually more contrasting than in nominate subspecies; dorsal ridge and rough and tuberculate dorsal scales not prominent; and length to a little over 1000 mm.

COMMENT

Crotalus basiliscus is probably conspecific with *C. molossus*. Klauber, *in* Bogert and Oliver (1945), compared Sonoran *C. basiliscus* with *C. molossus* and concluded that the former were somewhat intermediate between the two species. Klauber (1952) again discussed these specimens and noted that they more closely approached the geographical range of *C. molossus* than any other known specimens, and concluded that either intergradation or recent hybridization occurred between *molossus* and *basiliscus*. Klauber (1952) also mentioned a specimen from near Chapala, Jalisco that resembled *C. molossus nigrescens*. Gehlbach and Collette (1957) described a specimen of *C. molossus* from southern Puebla with "several characters of the possibly related *C. basiliscus*." Hardy and McDiarmid (1969) stated that [the only specimen of *C. molossus* from Sinaloa] "shares certain characters with *C. basiliscus*." I have seen live specimens of *basiliscus* from pine-oak forests in southeastern Sinaloa which showed some tendencies towards *molossus* in color and pattern. A badly-damaged DOR specimen from ca. 18 km NE Huejuquilla, Jalisco, had a greenish body color typical of *basiliscus* but a solid black tail and traces of a black transverse bar in the prefrontal area (both *molossus* traits). The locality of this specimen is a scrub oak and manzanillo forest-thorn forest ecotone and is a transition zone between the pine-oak forest about 4 km to the north (Sierra Valparaiso) and dry thorn forest less than 30 km to the west-southwest (Río Atengo Valley). *Crotalus basiliscus* should occur at the latter locality and *C. molossus* has been collected in the Sierra Valparaiso. Furthermore, *C. b. oaxacus* is similar in size to *C. m. nigrescens* and lacks the prominent dorsal ridge and rough and tuberculate dorsal scales of *C. b. basiliscus*, as does *C. m. nigrescens*. The ranges of *C. b. oaxacus* and *C. m. nigrescens* are complementary (see map in Klauber, 1972) and there is a specimen from southern Puebla with characters of both taxa (Gehlbach and Collette, 1957). The similarities between *basiliscus* and *molossus* in areas where their ranges approximate one another argues for intergradation. If *basiliscus* and *molossus* are indeed conspecific, then the large hiatus between the ranges of *C. b. basiliscus* and *C. b. oaxacus* would be explained. This problem merits further research.

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